

PATENT ABSTRACTS OF JAPAN

(11)Publication number : 09-315628

(43)Date of publication of application : 09.12.1997

(51)Int.Cl.

B65H 18/10
B65H 23/195
H05K 13/02

(21)Application number : 08-128340

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(22)Date of filing : 23.05.1996

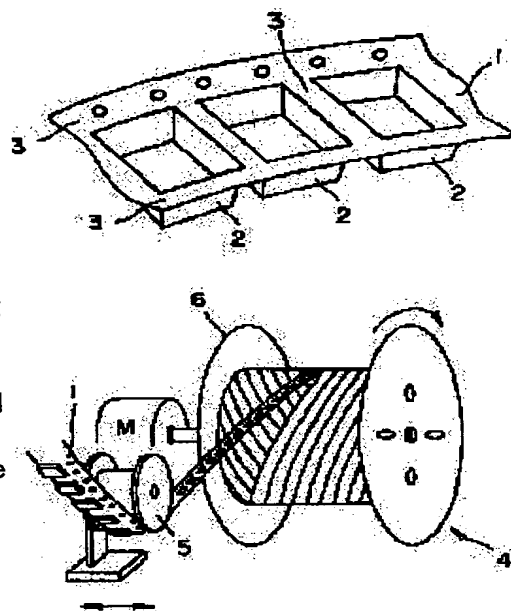
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(54) CARRIER TAPE WINDING METHOD AND PACKED BODY BY THIS METHOD

(57)Abstract:

PROBLEM TO BE SOLVED: To prevent a packed body from winding-loosening during storage and conveyance and prevent the generation of a habit of warping and waviness on the unwound carrier tape by winding the carrier tape continuously while moving the carrier tape crosswise and overlapping the lateral flange parts of recessed parts.

SOLUTION: At the time of traverse-winding a carrier tape on a reel 4, an incoming line guide roller 5 in front of the reel 4 is moved crosswise by fixed width at a time while the carrier tape 1 is wound on the reel by one round. It is desirable to change the lateral moving quantity of the incoming line guide roller 5 at this time, that is, the lateral moving quantity of the carrier tape 1, in correspondence with the width of the lateral flange parts of recessed parts 2 of the carrier tape 1. The carrier tape 1 is thus wound on the reel 4 by overlapping the flange parts. Lateral dislocation and mutual fit-in of the recessed parts of a packing body thus obtained can be prevented.



LEGAL STATUS

[Date of request for examination]

10.03.2003

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

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CLAIMS

[Claim(s)]

[Claim 1] How to roll round the carrier tape characterized by rolling round continuously, moving a carrier tape to a longitudinal direction in case the cavity for containing parts individually carries out the traverse volume of the carrier tape which it comes to form successively to a flow direction to a reel through a part for the flange around it piling up a part for the flange of right and left of a cavity. [many]

[Claim 2] The packing object of the carrier tape rolled round by the method according to claim 1.

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DETAILED DESCRIPTION**[Detailed Description of the Invention]**

[0001]

[The technical field to which invention belongs] this invention relates to the packing object by how to roll round a useful carrier tape to conveyance of electronic parts, and it.

[0002]

[Description of the Prior Art] In order for the cavity for containing parts individually to carry out the traverse volume of the carrier tape which it comes to form successively to a flow direction to a reel through a part for the flange around it conventionally, [many] Keep constant the torque of the rolling-up motor made to rotate a reel, and it was made to move to right-hand side or left-hand side by the tape width of face of a carrier tape, and it rolled round and went to the reel, shifting horizontally, and was carrying out by the method of reversing right and left of the move direction near the side plate of a reel.

[0003]

[Problem(s) to be Solved by the Invention] Since the tension which winds with the cut water of a reel and is finally applied to a carrier tape is different, the carrier tape wound around the traverse winds this method around a reel in storage / conveyance etc., and it tended to cause collapse. Trouble was caused to the taping work which curvature and an external waviness peculiarity as shown in the carrier tape to the neighborhood in the middle from the cut water of a reel at drawing 5 (a) and (b) occur, inserts electronic parts in a carrier tape, and carries out the seal of the covering tape when it rolled round in order to prevent this, and torque of a motor was strengthened. Especially, in what has the deep bottom of the cavity of a carrier tape, the cavities of the carrier tape piled up on the occasion of a traverse volume fitted in, it wound, and it had become collapse and the cause of an external waviness peculiarity. The packing object by how to roll round a carrier tape that this invention does not have the volume collapse in storage / conveyance of a carrier tape rolling-up object etc., and neither curvature nor an external waviness peculiarity happens to the rewound carrier tape, and it is offered.

[0004]

[Means for Solving the Problem] It is characterized by rolling round continuously, how rolling round the carrier tape by this invention moving a carrier tape to a longitudinal direction, in case the cavity for containing parts individually carries out the traverse volume of the carrier tape which it comes to form successively to a flow direction to a reel through the flange around it piling up a part for the flange of right and left of a cavity. [many] Moreover, tension applied to a carrier tape in the case of rolling up It is desirable that the movement magnitude to the right-hand side or left-hand side of keeping it constant and the carrier tape in the case of rolling up differs mutually within the limits of 100-400g corresponding to the width of face for a flange of right and left of a cavity.

[0005]

[Embodiments of the Invention] Hereafter, the detail of this invention is explained based on illustrated drawing 1 - drawing 4 . They are the partial expansion perspective diagram of the carrier tape on which, as for drawing 1 , this invention is applied, the perspective diagram showing the state where drawing 2 is rolling round the carrier tape to the reel by the method of this invention, the front view showing the state after rolling up by the reel of the carrier tape which showed drawing 3 to drawing 2 , and partial expansion explanatory drawing showing the state where the amount of [of a carrier tape] flange piled up drawing 4 , and it was put together. As shown in drawing 1 , the carrier tape 1 is carrying out structure where many cavities 2 for containing parts individually were formed successively by the flow direction through a part for the flat flange 3 of the circumference.

[0006] By how to roll round the carrier tape of this invention, while the carrier tape 1 is rolled round by the reel 4 1 round in case the traverse volume of the carrier tape 1 is carried out to a reel 4 as shown in drawing 2 and drawing 3 , the incoming line guide roll 5 of reel 4 this side is moved to a constant width [every] longitudinal direction. The move

width of face in this case is about a part for the flange 3 of a carrier tape by the case of the carrier tape of for example, 8mm width of face. When piling up 2.0mm, it is 6.0mm per rotation of a reel. 1.5mm When piling up, it is for every rotation of a reel. It is set as 6.5mm, respectively. Thus, as for the movement magnitude to the longitudinal direction of the carrier tape 1, i.e., the movement magnitude of the longitudinal direction of the incoming line guide roll 5, it is desirable to make it correspond to the width of face for a flange 3 of right and left of the cavity 2 of a carrier tape, and to change. Near [side plate 6] a reel 4, a part for the flange 3 is piled up and it rolls round to a reel 4, and the carrier tape 1 reverses right and left of the move direction, it is rolled round further and goes.

[0007] Tension which manages the tension concerning the carrier tape 1 under rolling up in tension meter (not shown) in how to roll round this invention, rolls round according to the diameter of rolling up to a reel 4, adjusts the torque of a motor, and is applied to the carrier tape 1 by this It is desirable to maintain at the fixed value of 100-400g within the limits. As shown in drawing 4 , the strike slip of a packing object and the fit in lump of cavity 2 comrades which were obtained can be prevented by piling up mutually a part for the flange 3 of the carrier tape 1, and rolling it round. In addition, the lap portion for a flange when 3b is moving the lap portion for a flange when 3a of drawing is moving to the left from the right to the right from the left is shown, respectively. Moreover, tension applied to a carrier tape by setting up the torque when rolling round a carrier tape weakly Since it can be set as 100-400g, the curvature and external waviness peculiarity of a carrier tape which were rolled round by the reel of the acquired packing object can be prevented.

[0008]

[Example] Hereafter, an example and the example of comparison explain the concrete mode of this invention. each cavity -- the cross direction 3.2mmx flow direction the carrier tape full [for a flange] is 8mm in 2.5mm -- movement magnitude beside an incoming line guide roll 6.5mm (the left -> right) and 7.0mm (the right -> left) -- setting up -- a part for the flange of right and left of a carrier tape of a cavity -- respectively -- 2.5mm You made it pile each other up 1.0mm, the traverse volume was carried out to the reel, and the packing object of a Moreover, the tension concerning the carrier tape in the case of the rolling up was kept constant in 200-220g. Although curvature occurred 20-30mm per length of 1m and the external waviness peculiarity was also checked by how to roll round the former when the carrier tape was rewound from the reel, the carrier tape rewound from the reel of the packing object acquired by how to roll round this invention fitted in less than 5mm [per length of 1m] curvature, and the external waviness peculiarity was not checked. Furthermore, it is width of face about the carrier tape rolled round by both methods, respectively. 3.2x depth 2.5x thickness Electronic parts with a size of 1.0mm After inserting in 100,000 taping opportunity KT-2420 (tradename made from KOOEI), when the taping work which carries out the seal of the covering tape is done, the thing of the conventional method Although throb of the carrier tape on which curvature and an external waviness peculiarity are considered as a cause occurred and a halt which electronic parts reverse occurred 6 times, by the method of this invention, taping was carried out without the problem.

[0009]

[Effect of the Invention] Since according to this invention there is no volume collapse in storage / conveyance of the acquired packing object etc. and neither curvature nor an external waviness peculiarity happens to the rewound carrier tape, taping work is done very favorably.

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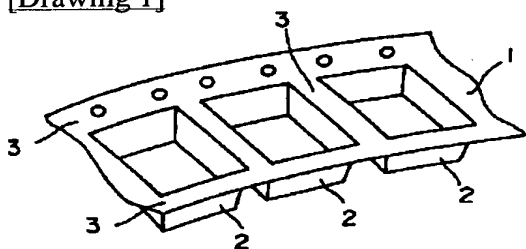
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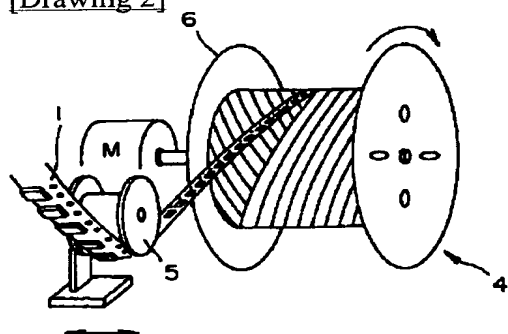
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DRAWINGS

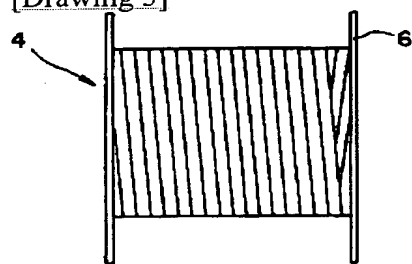
[Drawing 1]



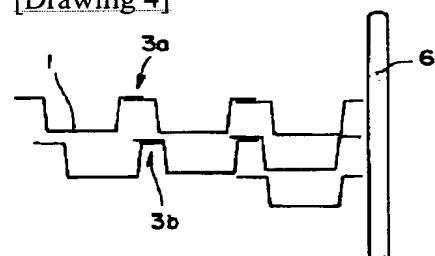
[Drawing 2]



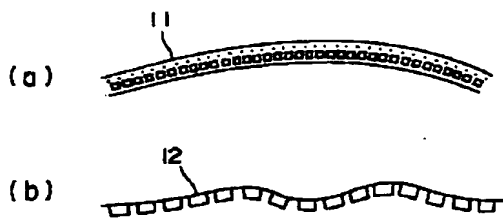
[Drawing 3]



[Drawing 4]



[Drawing 5]



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